We claim:

1. An image projection apparatus for projecting an image on a moving three-dimensional curved surface, comprising:

a position detection portion for detecting a position of the curved surface;

a projection portion for projecting an image on the curved surface; and

a control portion for performing control to create an image to be projected on the curved surface to project the created image by the projection portion on the curved surface based on the position of the curved surface as detected by the position detection portion; wherein

said position includes the curved surface's x and y position and also the curved surface's attitude.

2. An image projection apparatus for projecting an image on a moving three-dimensional curved surface as claimed in claim 1, wherein the control portion performs initialization so that a two-dimensional pattern projected by the projection portion will be coincident with a pattern of the three-dimensional curved surface.

3. An image projection apparatus for projecting an image on a moving three-dimensional curved surface as claimed in claim 2, wherein the control portion performs initialization so that the two-dimensional pattern projected by the projection portion will be coincident with at least four points arranged as a pattern on the curved surface.

4. An image projection apparatus for projecting an image on a moving three-dimensional curved surface as claimed in claim 3, wherein the at least four points arranged as the pattern on the curved surface are points of a light emitting material.

5. An image projection apparatus for projecting an image on a moving three-dimensional curved surface as claimed in claim 1, wherein the control portion predicts the position of the moving curved surface as detected by the position detection portion to generate an image associated with the predicted positions.

6. An image projection apparatus for projecting an image on a moving three-dimensional curved surface as claimed in claim 1, wherein the image created by the control portion is expressions of a human being.

7. An image projection apparatus for projecting an image on a moving three-dimensional curved surface as claimed in claim 6, further comprising:

an inputting portion for inputting the control signal controlling the expressions of the human being created by the control portion.

8. A method for projecting an image on a moving three-dimensional curved surface, the method comprising the steps of:

detecting a position of the curved surface;

preparing an image to be projected on the curved surface; and

projecting the prepared image on the curved surface based on the position of the detected curved surface; wherein said position includes the curved surface's x and y position and also the curved surface's attitude.

9. A method for projecting an image on a moving three-dimensional curved surface as claimed in claim 8, wherein the position of the detected moving curved surface is predicted and an image corresponding to the predicted position is generated.

10. A method for projecting an image on a moving three-dimensional curved surface as claimed in claim 8, wherein at least one of an attitude and the position of the curved surface is predicted, using a Kalman filter, based on the position of the detected moving curved surface.

11. A method for projecting an image on a moving three-dimensional curved surface as claimed in claim 8, wherein the created image is expressions of a human being.

12. An image projection control apparatus for controlling a projection of an image for a moving three-dimension curved surface, comprising a controller wherein control is performed such that an image to be projected on the curved surface is created based on a position of the inputted curved surface and such that the created image is projected on the curved surface; wherein

said position includes the curved surface's x and y position and also the curved surface's attitude.

13. An image projection control apparatus for controlling a projection of an image for a moving three-dimensional curved surface as claimed in claim 12, wherein the position of the curved surface is predicted based on the position of the inputted curved surface to create the image corresponding to the predicted position.

14. An image projection control apparatus for controlling a projection of an image for a moving three-dimensional curved surface as claimed in claim 12, wherein the image to be created is expressions of a human being.

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